Comments on Brown & Williamson Paper
to the Federal Trade Commission

Darby -- Page 6 - Using our points against us. If we say nicotine delivery to human smokers is so difficult to determine, how can we say that Barclay advertisement is misleading.

About RJR Smoking Study

-- B&W series of articles said over half (60%) of subjects not 44% found the test apparatus awkward.

-- Compared retained filter data from home smoking and lab smoking to show lab not real, even though a further look shows that if the "home" data was used for tar delivery estimation, Now would be even lower in comparison to Barclay.

	Barclay		Now	
Lab	0.85	↓	0.67	↓
Take home	0.69	81%	0.43	64%

-- Again, complain that RJR apparatus prevented smokers from closing ventilation with fingers, mouth, etc.

-- State that RJR test cigarette assembly only allows about 5 mm. of the tip to be exposed for the smoker

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to grasp with lips forcing occlusion. May(?) account for larger reductions found on RJR study. B&W then makes a general comment "none of the dilution studies used a test device that permitted normal filter-lip interaction" -- even though a major item in our U.S. Testing study was the extended filter cigarette. They never mention this.

-- B&W claims that RJR's filter efficiencies are too low -- 33% nicotine efficient at flow rate of 1680 (we find 40% but at full rod smoked instead of tipping + 12 mm. butt length). B&W claims 52%. Trick here is that B&W does not refer to nicotine efficiency but to "filter efficiency" so they are most likely mixing TPM efficiency (which is quite a bit higher) with nicotine efficiency to confuse the issue.

-- Also, RJR did not use the efficiency -- retained filter nicotine method to estimate tar delivery to smoker, so B&W's claim that this low value "only exaggerates the purported disparities between Barclay and Now" is not true.

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PM Studies -- B&W Complaints About

-- Footnote, page 4 (Martin London) -- B&W states that Barclay filter is only 3.6% less efficient than Now, Cambridge and Carlton over a variety of flow rates and ventilation levels. Our data suggest this is true only at very low rates (lit flow 100 cc/min. or less) while at higher flow the difference becomes as great is 16% lower than Cambridge. Again, B&W does not state which efficiency (TPM, nicotine) they are referring to, but in this case they are not correct for either measure, unless they are comparing their "filter efficiency" values (supp. TPM) with our or RJR nicotine efficiency values.

-- B&W -- "unlit ventilation measurements are meaningless" state that we used unlit cigarettes because we feared that subjects might behave differently with lit and unlit Barclays. We did say this was a possiblity but clearly indicated (as does U.S. Testing data) that in fact this did not turn out to be the case.

-- States lit smoking "too stressful" nothing objective.

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-- Again, says we are not measuring true normal smoking patters as smokers cannot "cover ventilation holes with fingers, lips, or tape." They argue counter to our "Barclay most susceptible" with fingers by stating case that if holes not over grooves are covered, no dilution loss will occur.

-- Page 7. State that lit holder, weighing a pound, causes tongue to be applied to the cigarette causing "undue pressure by the smokers lips (particularly the upper one)." Nonsense, because dental dam would merely get distorted if this was the case, leak and ruin the test. It holds the cigarettee too loosely to allow any "undue" pressure to be exerted.

-- Values wrong in U.S. Testing study -- corrected. However, in A&P write-up the correct values were used.

-- Two puffs from a cigarette not enough to assess it.

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Michael R. Guerin

-- Butt studies (because uninstrumented pattern cannot be obtained) add little to direct measures of ventilation.

-- Butt staining not qualitative enough to show tar comparison (misses boat here as he does not consider the point of the operableness of dilution).

-- Exhaled CO no good and not pursued by B&W.

-- Lorillard exhaled tar crude and not pursued.

-- Lip pressure not very important.

-- Sensory perception no good.

-- Oral photography not refined, opposed and not pursued.

* -- PM very well demonstrates relationship between tar and dilution.

* -- Reduced dilution in mouth finding is "logical and indisputable."

-- Artificiality introduced by apparatus affects the quantitative result; consistent observation of reduced dilution convincing.

-- Not observed for other 1 mg. brands.

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-- Degree to which dilution changed less certain.

-- States that tar is 2-8 mg. in the 45-60% dilution range and 4-6 mg. is good compromise (we should challenge) lit vs. unlit.

-- Like RJR holder merely because he likes 3 mg. better than 8-9.

Rejects Cotinine Study

-- Exceptionally large standard errors based on large sample size.

-- Absence of dose-response relationship.

-- Dose-response vs. number of cigarettes smoked not sufficient.

-- Body treatment of nicotine complex and poorly understood.

-- Cotinine levels similar to those found by other researchers using cigarettes containing 5-10 times the nicotine.

-- The fact that Barclay is higher at all may show much greater nicotine difference than 0.1 mg.

* -- Physiological fluids analysis in appropriate approach to the problem of relative ranking -- too complex

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and not controlled/understood . Strong that ranking is wrong -- less so about how much or which holder.

-- "I feel very strongly that the Commission should take steps to discourage the use of Barclay-type filter or modify the testing. . . ."

Fred G. Bock

* -- "Preponderence of evidence indicates that Barclay cigarettes deliver more tar to smokers than determined by the current FTC method." Supported by air dilution studies. The cotinine studies are not sufficient to reverse the conclusion.

-- No clear indication of degree of underestimation. 3-8 range by dilution and butt study data.

-- Cotininte study(s) in his estimation support a somewhat lower relative tar yield.

* -- 3-3.5 mg. in his opinion, until better evidence is available (3-3.5 will be interpreted by B&D to be actual, not relative delivery to smoker).

-- Best data would come from a well conducted cotinine study.

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-- Must employ several data points collected from brands yielding from 1 to 8 mg. tar.

-- If desirable (FTC) staff should consult with appropriate experts in chemical analysis and cigarette design fields about newly designed holder.

-- Great changes in cigarette design over the past several years may yield FTC tar and nicotine numbers that are misleading -- changes in puff patterns (compensation), closing ventilation holes.

Cotinine

-- B&W did not answer most of the specific questions.

-- "Compensation -- accepted by all the parties of controversy."

-- Data does not suggest Barclay is different from a 3 mg. cigarette. Did not show different from 0.6 (or even 1.6) nicotine cigarette.

-- Gori used SE to express standard deviation rather than standard error.

-- Flavor evidence suggests that Barclay may deliver more tar.

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-- Butt studies useless without knowledge of ventilation level.

-- Misunderstood meaning of footnote "should not be used to predict human values."

-- Filter pressure measures do not answer question.

-- Fiber optic photos do not answer question.

-- PM answered the seven questions.

-- Proof of PPA (and RJR's) is that other cigarettes than Barclay were not changed with and without mouthpiece.

* -- EF test by PM showed apparatus did not force the lips over end of filter (IMPORTANT).

* -- "RJR and particularly the PM data demonstrate convincingly that human smokers do block ventilation of Barclay cigarettes in a unique way."

-- Apparatus block finger action on all cigarettes -- not just Barclay.

-- Some credence given to Lorillard exhaled tar study as supportive of PM and RJR.

-- Not sufficient data (evidence) to select the most reliable and fair testing system -- list several "unanswered" questions.

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-- However, there is a present need for action. Best course for Commission would be to adopt one of the recommended holders as an "interim modification" of the test procedure -- with established future date for a permanent revision.

Lynn T. Kozlowski

First Paper (Before February 15 Submissions)

* A "serious question" does exist about Barclay and no additional research is needed to demonstrate that Barclay presents greater risks of high tar and nicotine yields to smokers than do other ultra-low tar brands.

The studies most conclusive on this point are the Gori-Darby studies:

-- More ways to lower dilution on Barclay channels and openings.

-- Sensory profiles no good.

-- PM butt study and PPA -- first rate from a laboratory-analytical viewpoint -- are biased against Barclay and for Cambridge.

° Keeps fingers off the holes
° May force lips over end
° biased panel or too small

] U.S. Testing panel and EF softened his position -- still believes evidence good enough.

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-- PM butt study probably right but more consumers should be tested.

-- Pushes for studies of hole blocking -- but concedes that this is a separate issue.

-- Lorillard exhaled tar study does "indicate that the tar delivery of Barclay is higher than the FTC ratings suggest."

* -- Gori study lack of higher nicotine cigarette critical.

* -- Gori cotinine work should not have been able to see a difference between cigarettes varying only 0.1 mg. in FTC nicotine. The fact that he did (3 times) shows that Barclay is much more the 0.1 mg. nicotine different to smokers.

-- Darby's model adds nothing to Gori study.

-- "Consumers should be warned about the special risks of using ventilated filter cigarettes (including Barclay) and about the higher risks of the Barclay-type filter."

Supplemental Report on Barclay

Air-intake ventilation blocking

"None of the tobacco companies has submitted any solid data on this problem [ventilation blocking]; -- but have

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indicated that their 'experience' indicates that the problem is rate (PM) or relatively common (B&W). RJR did a crude and inconclusive study of finger blocking."

Agrees with PM position that hole-blockage issue is altogether different from the issue raised by the bypass filter.

States, however: "'Invisible' conventional ventilation holes, however, may constitute a problem that falls between the issues pertaining to conventional visible vents and the Barclay-type filter -- (Merit, for example has invisible air intake vents)."

* "The recent RJR and PM studies clearly and persuasively demonstrate that the ventilation system is compromised with great regularity -- RJR data - 72 of 72 caused a reduction -- the problem is special to Barclay filters -- competing brands do not show altered air dilution."

States that RJR data for Now (50 cc puff every 20 seconds) provides new evidence for overhaul of FTC method. But that this is not relevant to "this dispute."

* "The question is not 'how much tar does Barclay deliver' but 'what is the size of the air dilution effect when Barclay is smoked by people.'"

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"Average ventilation effect" needs to be established so that cigarettes could then be smoked by holder that simulates this dilution (such as a "modified" PM holder). His estimate of average dilution is 45% based on PM and RJR studies.

The latest Gori study did nothing but strengthen his conviction that it proved Barclay was substantially different than other 1 mg. cigarettes.

The PM and RJR consultants' concerns about the Gori-Darby work were appropriate and well-founded.

Assumes that SD's were listed, not SE's as indicated.

His comparison of the Gori results with those found by Hill and Marquardt and Russell are very persuasive in showing, to say the least, that no true conclusions can be drawn from the Gori studies.

* "In my opinion, the PM, RJR and B&W research strongly support the conclusion that Barclay delivers tar and nicotine out of proportion to the FTC rating."

Suggests that porous plug wrap on Barclay-type filter would solve the problem.

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